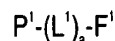


The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

1. (original) A composition of matter of the formula



and multimers thereof, wherein:

F^1 is a vehicle and is attached at the C-terminus of $P^1-(L^1)_a$;

P^1 is a PTH/PTHrP modulating domain;

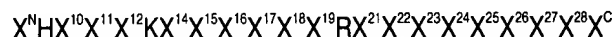
L^1 is a linker; and

a is 0 or 1.

2. (original) The composition of matter of Claim 1 of the formulae



3. (original) The composition of matter of Claim 1, wherein F^1 is an Fc domain.
 4. (original) The composition of matter of Claim 1 wherein F^1 is an IgG Fc domain.
 5. (original) The composition of matter of Claim 1 wherein F^1 is an IgG1 Fc domain.
 6. (original) The composition of matter of Claim 1 wherein F^1 comprises the sequence of SEQ ID NO: 2.
 7. (original) The composition of matter of Claim 1 wherein the PTH/PTHrP modulating domain is of the formula



(SEQ ID NO: 3)

wherein:

X^N is absent or is $X^3 X^4 X^5 X^6 X^7$, $X^2 X^3 X^4 X^5 X^6 X^7$, $X^1 X^2 X^3 X^4 X^5 X^6 X^7$, or $Y X^1 X^2 X^3 X^4 X^5 X^6 X^7$;

X^1 through X^7 , X^{10} , X^{11} , X^{12} , X^{14} through X^{28} are each independently amino acid residues;

X^C is absent or is X^{29} , $X^{29} X^{30}$, $X^{29} X^{30} X^{31}$, $X^{29} X^{30} X^{31} X^{32}$, $X^{29} X^{30} X^{31} X^{32} X^{33}$, $X^{29} X^{30} X^{31} X^{32} X^{33} X^{34}$, $X^{29} X^{30} X^{31} X^{32} X^{33} X^{34} X^{35}$, or $X^{29} X^{30} X^{31} X^{32} X^{33} X^{34} X^{35} X^{36}$;

X^{29} through X^{36} are each independently amino acid residues.

8. (original) The composition of matter of Claim 7, wherein:

X^N is $X^1 X^2 X^3 X^4 X^5 X^6 X^7$;

X^1 is a hydrophilic or nonfunctional residue;

X^2 is V;

X^3 is S;

X^4 is E;

X^5 is a nonfunctional or basic residue;

X^6 is Q;
 X^7 is L;
 X^{10} is an acidic or hydrophilic residue;
 X^{11} is a nonfunctional or basic residue;
 X^{12} is a nonfunctional residue;
 X^{14} is a basic or hydrophilic residue;
 X^{15} is a nonfunctional residue;
 X^{16} is a nonfunctional or hydrophilic residue;
 X^{17} is an acidic, hydrophilic, or nonfunctional residue;
 X^{18} is a nonfunctional residue;
 X^{19} is an acidic or basic residue;
 X^{21} is a nonfunctional or basic residue;
 X^{22} is a hydrophilic, acidic, or aromatic residue;
 X^{23} is an aromatic or lipophilic residue;
 X^{24} is a lipophilic residue (L preferred);
 X^{25} is a hydrophilic or basic residue;
 X^{26} is a hydrophilic or basic residue;
 X^{27} is a lipophilic, basic, or nonfunctional residue; and
 X^{28} is a lipophilic or nonfunctional residue.

9. (original) The composition of matter of Claim 8, wherein:

X^C is $X^{29}X^{30}X^{31}X^{32}X^{33}X^{34}$;
 X^{29} is a hydrophilic or nonfunctional residue;
 X^{30} is a hydrophilic or acidic residue;
 X^{31} is a lipophilic or nonfunctional residue;
 X^{32} is H;
 X^{33} is a hydrophilic residue; and
 X^{34} is a nonfunctional or aromatic residue.

10. (original) The composition of matter of Claim 8, wherein:

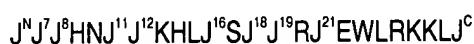
X^C is $X^{29}X^{30}X^{31}$;
 X^{29} is a hydrophilic or nonfunctional residue;
 X^{30} is a hydrophilic or acidic residue; and
 X^{31} is a lipophilic or nonfunctional residue.

11. (original) The composition of matter of Claim 8, wherein:

X^C is $X^{29}X^{30}$;

- X^{29} is a hydrophilic or nonfunctional residue; and
 X^{30} is a hydrophilic or acidic residue.
12. (original) The composition of matter of Claim 8, wherein:
 X^C is X^{29} ; and
 X^{29} is a hydrophilic or nonfunctional residue.
13. (original) The composition of matter of Claim 8, wherein X^C is absent.
14. (original) The composition of matter of Claim 8, wherein:
 X^1 is A, S or Y;
 X^5 is H or I;
 X^{10} is N or D;
 X^{11} is L, R, or K;
 X^{12} is G, F, or W;
 X^{14} is H or S;
 X^{15} is L or I;
 X^{16} is Q, N, S, or A;
 X^{17} is S, D, or L;
 X^{18} is M, L, V or Nle;
 X^{19} is E or R;
 X^{21} is V, M, R, or Nle;
 X^{22} is E or F;
 X^{23} is W or F;
 X^{25} is R or H;
 X^{26} is K or H;
 X^{27} is K or L; and
 X^{28} is L or I.
15. (original) The composition of matter of Claim 14, wherein:
 X^C is $X^{29}X^{30}X^{31}X^{32}X^{33}X^{34}$;
 X^{29} is Q or A;
 X^{30} is D or E;
 X^{31} is V or I;
 X^{33} is N or T; and
 X^{34} is A, F or Y.
16. (original) The composition of matter of Claim 14, wherein:
 X^C is $X^{29}X^{30}X^{31}$;

- X^{29} is Q or A;
 X^{30} is D or E; and
 X^{31} is V or I;
17. (original) The composition of matter of Claim 14, wherein:
 X^C is $X^{29}X^{30}$;
 X^{29} is Q or A; and
 X^{30} is D or E.
18. (original) The composition of matter of Claim 14, wherein:
 X^C is X^{29} ; and
 X^{29} is Q or A.
19. (original) The composition of matter of Claim 14, wherein X^C is absent.
20. (original) The composition of matter of Claim 1, wherein the PTH/PTHrP modulating domain is of the formula



(SEQ ID NO: 4)

wherein:

J^N is absent or is selected from $J^1 J^2 J^3 J^4 J^5 J^6$, $J^2 J^3 J^4 J^5 J^6$, $J^3 J^4 J^5 J^6$;
 J^1 is an amino acid residue;
 J^2 is an amino acid residue;
 J^3 is an amino acid residue;
 J^4 is an amino acid residue;
 J^5 is an amino acid residue;
 J^6 is an amino acid residue;
 J^7 is an amino acid residue;
 J^8 is an amino acid residue;
 J^{11} is a nonfunctional or basic residue;
 J^{12} is an amino acid residue;
 J^{16} is an amino acid residue;
 J^{18} is an amino acid residue;
 J^{19} is an acidic or basic residue;
 J^{21} is an amino acid residue;
 J^C is absent or is J^{29} , $J^{29} J^{30}$, $J^{29} J^{30} J^{31}$, $J^{29} J^{30} J^{31} J^{32}$, $J^{29} J^{30} J^{31} J^{32} J^{33}$, $J^{29} J^{30} J^{31} J^{32} J^{33} J^{34}$; and
 J^{29} is an amino acid residue;
 J^{30} is an amino acid residue;

J³¹ is an amino acid residue;

J³² is an amino acid residue;

J³³ is an amino acid residue;

J³⁴ is an amino acid residue.

21. (original) The composition of matter of Claim 20, wherein:

J^N is J¹J²J³J⁴J⁵J⁶;

J¹ is a nonfunctional or aromatic residue;

J² is a nonfunctional residue;

J³ is a hydrophilic residue;

J⁴ is an acidic residue;

J⁵ is a nonfunctional residue;

J⁶ is a basic residue;

J⁷ is a nonfunctional or aromatic residue;

J⁸ is a nonfunctional residue;

J¹¹ is a basic or a nonfunctional residue;

J¹² is a nonfunctional or aromatic residue;

J¹⁶ is a nonfunctional or hydrophilic residue;

J¹⁸ is a nonfunctional residue;

J¹⁹ is an acidic or basic residue; and

J²¹ is a nonfunctional residue;

J^C is J²⁹J³⁰J³¹J³²J³³J³⁴;

J²⁹ is a hydrophilic or nonfunctional residue;

J³⁰ is a hydrophilic or acidic residue;

J³¹ is a lipophilic or nonfunctional residue;

J³² is a basic residue;

J³³ is an acidic residue; and

J³⁴ is an aromatic residue.

22. (original) The composition of matter of Claim 21, wherein:

J¹ is A, S or Y;

J² is V;

J³ is S;

J⁴ is E;

J⁵ is I;

J⁶ is Q;

J⁷ is L or F;

J⁸ is M or Nle;

J¹¹ is L, R, or K;

J¹² is G or W;

J¹⁶ is N, S, or A;

J¹⁸ is M, Nle, L, or V;

J¹⁹ is E or R;

J²¹ is V, M, or Nle;

J²⁹ is Q or A;

J³⁰ is D or E;

J³¹ is V or I;

J³² is H;

J³³ is N; and

J³⁴ is F or Y.

23. (original) The composition of matter of Claim 20, wherein:

J^N is J¹J²J³J⁴J⁵J⁶;

J¹ is a nonfunctional or aromatic residue;

J² is a nonfunctional residue;

J³ is a hydrophilic residue;

J⁴ is an acidic residue;

J⁵ is a nonfunctional residue;

J⁶ is a basic residue;

J⁷ is a nonfunctional or aromatic residue;

J⁸ is a nonfunctional residue;

J¹¹ is a basic or a nonfunctional residue;

J¹² is a nonfunctional or aromatic residue;

J¹⁶ is a nonfunctional or hydrophilic residue;

J¹⁸ is a nonfunctional residue;

J¹⁹ is an acidic or basic residue;

J²¹ is a nonfunctional residue;

J^C is J²⁹J³⁰J³¹;

J²⁹ is a hydrophilic or nonfunctional residue;

J³⁰ is a hydrophilic or acidic residue; and

J³¹ is a lipophilic or nonfunctional residue.

24. (original) The composition of matter of Claim 23, wherein:

J¹ is A, S or Y;

J² is V;

J³ is S;

J⁴ is E;

J⁵ is I;

J⁶ is Q;

J⁷ is L or F;

J⁸ is M or Nle;

J¹¹ is L, R, or K;

J¹² is G or W;

J¹⁶ is N, S, or A;

J¹⁸ is M, Nle, L, or V;

J¹⁹ is E or R;

J²¹ is V, M, or Nle;

J²⁹ is Q or A;

J³⁰ is D or E; and

J³¹ is V or I.

25. (original) The composition of matter of Claim 20, wherein:

J^N is J¹J²J³J⁴J⁵J⁶;

J¹ is a nonfunctional or aromatic residue;

J² is a nonfunctional residue;

J³ is a hydrophilic residue;

J⁴ is an acidic residue;

J⁵ is a nonfunctional residue;

J⁶ is a basic residue;

J⁷ is a nonfunctional or aromatic residue;

J⁸ is a nonfunctional residue;

J¹¹ is a basic or a nonfunctional residue;

J¹² is a nonfunctional or aromatic residue;

J¹⁶ is a nonfunctional or hydrophilic residue;

J¹⁸ is a nonfunctional residue;

J¹⁹ is an acidic or basic residue;

J²¹ is a nonfunctional residue;

J^C is $J^{29}J^{30}$;

J^{29} is a hydrophilic or nonfunctional residue; and

J^{30} is a hydrophilic or acidic residue.

26. (original) The composition of matter of Claim 25, wherein:

J^1 is A, S or Y;

J^2 is V;

J^3 is S;

J^4 is E;

J^5 is I;

J^6 is Q;

J^7 is L or F;

J^8 is M or Nle;

J^{11} is L, R, or K;

J^{12} is G or W;

J^{16} is N, S, or A;

J^{18} is M, Nle, L, or V;

J^{19} is E or R;

J^{21} is V, M, or Nle;

J^{29} is Q or A; and

J^{30} is D or E.

27. (original) The composition of matter of Claim 20, wherein:

J^N is $J^1J^2J^3J^4J^5J^6$;

J^1 is a nonfunctional or aromatic residue;

J^2 is a nonfunctional residue;

J^3 is a hydrophilic residue;

J^4 is an acidic residue;

J^5 is a nonfunctional residue;

J^6 is a basic residue;

J^7 is a nonfunctional or aromatic residue;

J^8 is a nonfunctional residue;

J^{11} is a basic or a nonfunctional residue;

J^{12} is a nonfunctional or aromatic residue;

J^{16} is a nonfunctional or hydrophilic residue;

J^{18} is a nonfunctional residue;

J¹⁹ is an acidic or basic residue;
 J²¹ is a nonfunctional residue;
 J^C is J²⁹; and
 J²⁹ is a hydrophilic or nonfunctional residue.

28. (original) The composition of matter of Claim 27, wherein:

J¹ is A, S or Y;
 J² is V;
 J³ is S;
 J⁴ is E;
 J⁵ is I;
 J⁶ is Q;
 J⁷ is L or F;
 J⁸ is M or Nle;
 J¹¹ is L, R, or K;
 J¹² is G or W;
 J¹⁶ is N, S, or A;
 J¹⁸ is M, Nle, L, or V;
 J¹⁹ is E or R;
 J²¹ is V, M, or Nle; and
 J²⁹ is Q or A.

29. (original) The composition of matter of Claim 20, wherein:

J^N is J¹J²J³J⁴J⁵J⁶;
 J¹ is a nonfunctional or aromatic residue;
 J² is a nonfunctional residue;
 J³ is a hydrophilic residue;
 J⁴ is an acidic residue;
 J⁵ is a nonfunctional residue;
 J⁶ is a basic residue;
 J⁷ is a nonfunctional or aromatic residue;
 J⁸ is a nonfunctional residue;
 J¹¹ is a basic or a nonfunctional residue;
 J¹² is a nonfunctional or aromatic residue;
 J¹⁶ is a nonfunctional or hydrophilic residue;
 J¹⁸ is a nonfunctional residue;

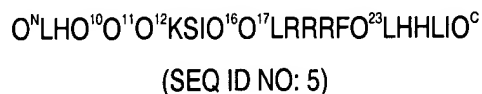
J¹⁹ is an acidic or basic residue;
J²¹ is a nonfunctional residue; and
J^C is absent.

30. (original) The composition of matter of Claim 29, wherein:

J¹ is A, S or Y;
J² is V;
J³ is S;
J⁴ is E;
J⁵ is I;
J⁶ is Q;
J⁷ is L or F;
J⁸ is M or Nle;
J¹¹ is L, R, or K;
J¹² is G or W;
J¹⁶ is N, S, or A;
J¹⁸ is M, Nle, L, or V;
J¹⁹ is E or R; and
J²¹ is V, M, or Nle.

31. (currently amended) The composition of matter of Claim 20, wherein the PTH/PTHrP modulating domain is selected from ~~Table 1~~ any one of SEQ ID NO:10 to SEQ ID NO:61 inclusive.

32. (original) The composition of matter of Claim 1 wherein the PTH/PTHrP modulating domain is of the formula



wherein:

O^N is absent or is YO¹O²O³O⁴O⁵O⁶O⁷, O¹O²O³O⁴O⁵O⁶O⁷, O²O³O⁴O⁵O⁶O⁷, O³O⁴O⁵O⁶O⁷, O⁴O⁵O⁶O⁷, O⁵O⁶O⁷, O⁶O⁷, or O⁷;

O¹ is an amino acid residue;
O² is an amino acid residue;
O³ is an amino acid residue;
O⁴ is an amino acid residue;
O⁵ is an amino acid residue;

O⁶ is an amino acid residue;

O⁷ is an amino acid residue;

O¹⁰ is an amino acid residue;

O¹¹ is an amino acid residue;

O¹² is an amino acid residue;

O¹⁶ is an amino acid residue;

O¹⁷ is an amino acid residue;

O²³ is an amino acid residue;

O^C is absent or is O²⁹, O²⁹O³⁰, O²⁹O³⁰O³¹, O²⁹O³⁰O³¹O³², O²⁹O³⁰O³¹O³²O³³, O²⁹O³⁰O³¹O³²O³³O³⁴,

O²⁹O³⁰O³¹O³²O³³O³⁴O³⁵, or O²⁹O³⁰O³¹O³²O³³O³⁴O³⁵O³⁶; and

O²⁹ through O³⁶ are each independently amino acid residues.

33. (original) The composition of matter of Claim 27, wherein:

O^N is O⁷;

O⁷ is a nonfunctional residue;

O¹⁰ is an acidic or hydrophilic residue;

O¹¹ is a basic or nonfunctional residue;

O¹² is an aromatic or nonfunctional residue;

O¹⁵ is a hydrophilic or nonfunctional residue;

O¹⁶ is a hydrophilic residue;

O¹⁷ is an acidic or nonfunctional residue;

O²³ is an aromatic residue; and

O^C is absent.

34. (original) The composition of matter of Claim 23, wherein:

O^N is O¹O²O³O⁴O⁵O⁶O⁷;

O¹ is a nonfunctional amino acid residue;

O² is a nonfunctional amino acid residue;

O³ is a hydrophilic amino acid residue;

O⁴ is an acidic amino acid residue;

O⁵ is a basic or nonfunctional amino acid residue;

O⁶ is a hydrophilic amino acid residue;

O⁷ is a nonfunctional residue;

O¹⁰ is an acidic or hydrophilic residue;

O¹¹ is a basic or nonfunctional residue;

O¹² is an aromatic or nonfunctional residue;

O¹⁵ is a hydrophilic or nonfunctional residue;

O¹⁶ is a hydrophilic residue; and

O¹⁷ is an acidic or nonfunctional residue; and

O²³ is an aromatic residue.

35. (original) The composition of matter of Claim 34, wherein:

O¹ is A;

O² is V;

O³ is S;

O⁴ is E;

O⁵ is H or I;

O⁶ is Q;

O⁷ is L;

O¹⁰ is N or D;

O¹¹ is K or L;

O¹² is G, F, or W;

O¹⁵ is I or S;

O¹⁶ is Q or N;

O¹⁷ is D or L;

O²³ is F or W.

36. (currently amended) The composition of matter of Claim 27, wherein the PTH/PTHrP modulating domain is selected from ~~Table 2~~ any one of SEQ ID NO:62 to SEQ ID NO:159 inclusive.

37. (original) The composition of matter of Claim 1, wherein the PTH/PTHrP modulating domain has the amino acid sequence of TIP39.

38. (currently amended) The composition of matter of Claim 1, comprising a sequence selected from ~~Table 4~~ any one of SEQ ID NO:161 to SEQ ID NO:170 inclusive.

39. - 79 (cancelled)

Amendments to the Drawings:

In response to the objections to the drawings applicants herewith submit replacement sheets of formal drawings, Figures 1 through 12.